

four corners

WORKBOOK

It's All in the Soil





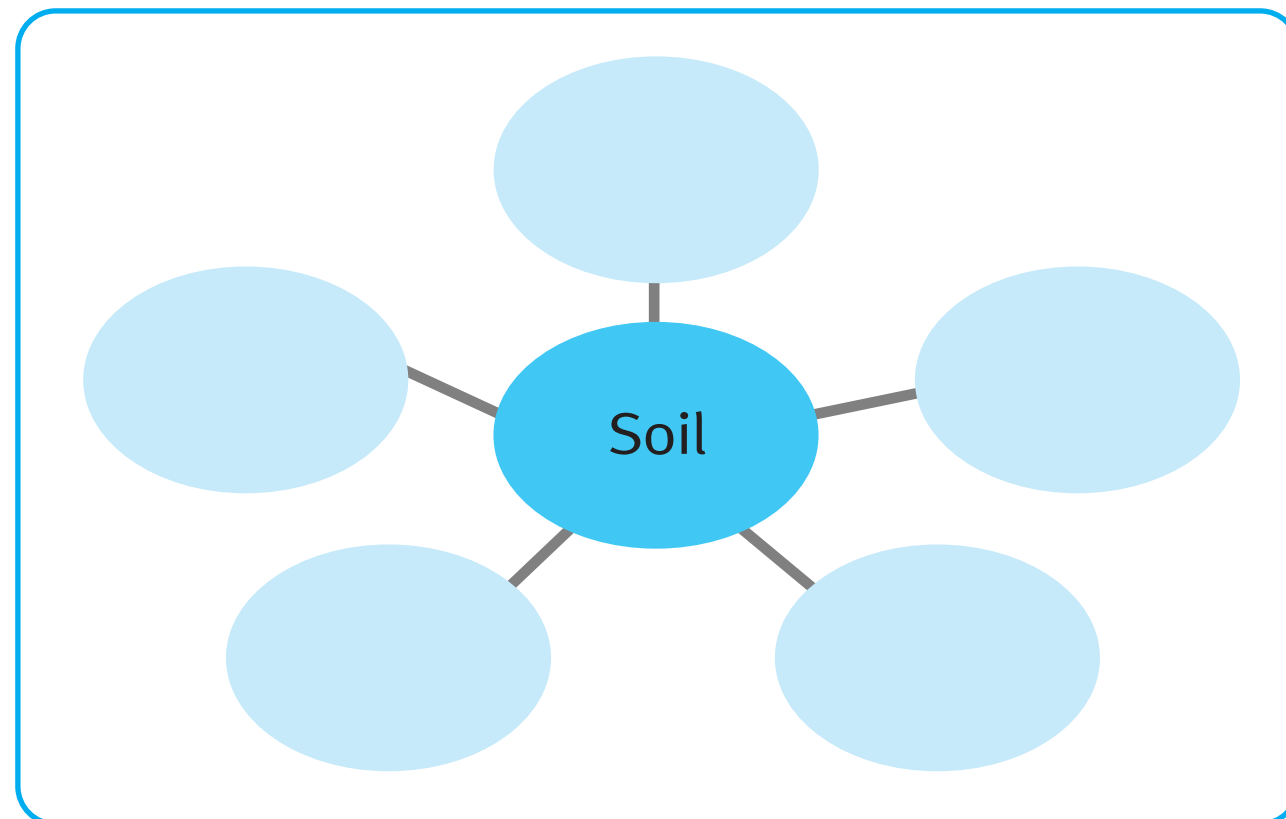
Read the sentences and answer the question.

- Take a handful of soil from your backyard or a park.
- Spread the soil out on paper.
- Look at the soil with a magnifying glass.

1. What are the procedures for?

- | | |
|-----------------------------------|------------------------------|
| ① researching what is in the soil | ② researching how soil forms |
| ③ researching when soil forms | ④ researching why soil forms |

2. Write what you might find in the soil from the procedures above.



Write the correct word from the Word Bank next to the definition.

[Word Bank]

fungi decay	weathering erosion	bacteria pollute
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1. to have broken down slowly

decay

2. the wearing away of rock or soil

erosion

3. organisms such as mildew and mould

fungi

4. to add harmful substances

pollute

5. microscopic organisms

bacteria

6. the breaking down of rocks

weathering



Circle the synonym of the underlined word.

1. It also contains bits of dead plants and animals that have decayed.

- ① provides ② holds ③ looks ④ carries

2. Most soil is a mixture of four different materials.

- ① food ② place ③ blend ④ farmland

**Read the passage and circle the answer.**

Soil is made up of tiny pieces of _____. It also contains bits of dead plants and animals that have decayed. Millions of living things, such as bacteria and fungi, are also part of the soil.

Soil forms slowly. Most soil is a mixture of different materials.

1. What is the main idea of this passage?

- ① why soil is made up of dead plants and animals
- ② what soil is made up of
- ③ how soil forms
- ④ how fast soil forms

2. What word goes in the blank?

- ① mountain
- ② water
- ③ salt
- ④ rock

3. What might follow the passage?

- ① how soil forms
- ② why soil forms
- ③ what's in the soil
- ④ what bacteria is

**Circle the answer.**

1. Which is true about soil?

- ① It holds heat, water and food for plants.
- ② Soil is made up of water.
- ③ It might look like a star on the ground.
- ④ Soil contains live plants and animals.

2. What is an organism such as mildew and mould called?

- ① erosion
- ② plants
- ③ soil
- ④ fungi

**Fill in the blanks with the correct words from the Word Bank.**

[Word Bank]

weathering

hums

water

air

Most soil is a mixture of four different materials. Bits of broken rocks made up most of soil. Rocks are broken into smaller pieces by a process called (1) weathering.

Soil also contains (2) humus. It is made up of decaying parts of once-living things. (3) water and (4) air are also important parts of soil. They fill up the spaces between the pieces of rock and humus.

**Circle the answer.**

1. What helps once-living plants and animals decay in the soil?

- ① water and air
- ② bacteria and fungi
- ③ humus
- ④ trees and grass

2. Why is humus important?

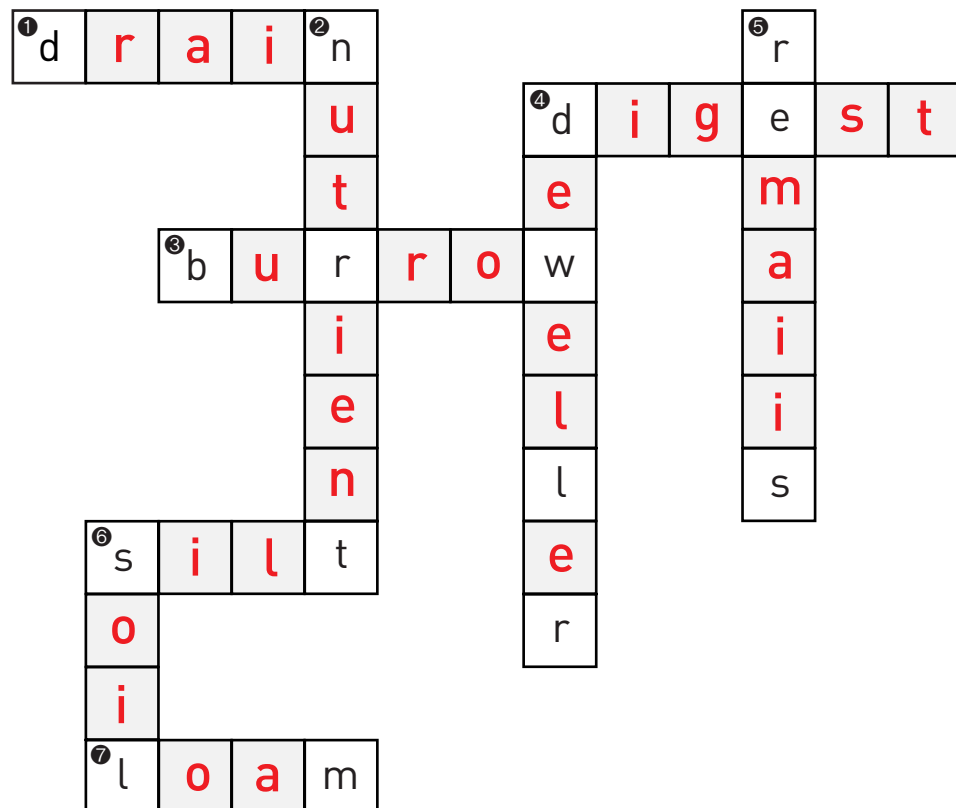
- ① Because it can harm farmland.
- ② Because it carries soil to different places.
- ③ Because it contains most of the nutrients that plants need to grow.
- ④ Because it fills up the spaces between the pieces of rock.

3. Why does erosion happen more slowly where trees and grasses are planted?

- ① Because soil can be washed or blown away very easily.
- ② Because their roots hold the soil in place.
- ③ Because wind and rain carry soil to different places.
- ④ Because trees and grasses contain most of the nutrients that plants need to grow.



Complete the word puzzle from the Word Bank.



[Word Bank]

drain
burrow
silt
loam
digest
remains
nutrient
dweller
soil

Across

1. to flow water somewhere
3. a hole or a tunnel dug by animals
4. to pass food through the stomach
6. soil made of medium-sized grains
7. a mixture of clay, silt and sand

Down

2. substance that helps plants and animals grow
4. a person or an animal who lives in a kind of place or house
5. the parts of people or animal's body that are left after they have died
6. the substance on the surface of the earth in which plants grow



Reread Book page 6 and write about each layer of soil in your own words.

Topsoil

- (1) This top layer is made up of the smallest grains.
- (2) This layer contains a lot of humus and nutrients.
- (3) **Plants grow well in this layer.**

Subsoil

- (1) This layer has larger grains.
- (2) **It does not contain as much humus as topsoil.**
- (3) **Plants do not grow well here.**

Lowest Layer

- (1) **This layer is made up of a mix of pebbles and chunks of rocks.**
- (2) **It does not contain humus.**
- (3) **Plants do not grow well here.**

Bedrock

This layer is solid rock.





Write the correct answers from the Word Bank.

[Word Bank]

clay

loam

silt

sandy soil

1. This soil drains through water most quickly. What is it?
2. This soil is much smoother. And water cannot drain through its fine grain easily. What is it?
3. This soil is best for growing plants. What is it?
4. This soil contains medium-sized grains. And it is smaller than sand but bigger than clay. What is it?

sandy soil

clay

loam

silt



Reread Book page 9 and write the answers in your own words.

1. Write 3 reasons why loam is the best soil for farming.

(1) It is rich in nutrients.

(2) It holds water well.

(3) It allows air to reach plants' root.

2. Write 2 reasons why plants do not grow well in clay.

(1) Water and air cannot easily move through layers of clay.

(2) Plant roots cannot push through clay soil to find water.

3. Write a reason why plants do not grow well in sandy soil.

It does not hold enough water or nutrients for many plants to grow well.



Read the passage and circle the answer.

Soil is not only a home for plants. Animals also make their home in the soil. These animals can be as large as a badger or they can be so small that they cannot be seen. Soil provides animals with food, warmth and protection. Some animals, such as (1)_____ dig under the soil to make their homes, or burrows. Smaller creatures, such as (2)_____ also live in the soil.

1. What is the best title of this passage?

☒ ① Animals in the Soil
☐ ③ Soil Layers

☐ ② Kinds of Soil
☐ ④ Earthworms

2. What animal fits in the blank (1)?

☐ ① tigers

☒ ② wombats

☐ ③ insects

☐ ④ earthworms

3. What animal fits in the blank (2)?

☐ ① lions

☐ ② badgers

☒ ③ worms

☐ ④ rabbits



Reread Book page 11 and write about how earthworms help soil to be healthy in your own words.

Earthworms eat decaying plants and help break them down.
And they make tunnels that let water and air into the soil.
These tunnels help water and air reach plant roots more easily.
At the same time, they mix up the soil layers as they are moving.



Fill in the blanks with the correct words from the Word Bank.

[Word Bank]

compost	terraces	ladybirds	protect
wastes	manufactured	pesticides	humus

- For years, farmers spread animal wastes on their land to return nutrients to the soil.
- Then as farms grew larger, some farmers began to use manufactured fertilizers to enrich the soil.
- They also began using chemicals called pesticides to kill insects that ate crops.
- They are trying to find safer ways to protect their crops.
- Some farmers use ladybirds to control pests. They eat other insects but not plants.
- Farmers sometimes cut step-like terraces on steep slopes.
- People can help the soil by adding compost to it. It is a mixture of dry things, such as dried leaves and grasses, and moist things, such as fruit and vegetable scraps.
- When these are combined and allowed to decay, they become humus.



Circle the answer.

- For years, what have farmers spread on their land to return nutrients to the soil?
 ① pesticides ② ladybirds ③ animal wastes ④ aphids
- Why did some farmers begin to use manufactured fertilizers?
 ① to enrich the soil ② to dry the soil
 ③ to kill earthworms ④ to protect ladybirds
- What are 'pesticides'?
 ① They are manufactured fertilizers.
 ② They are birds to eat other insects, but not plants.
 ③ They are earthworms to dig holes in soil.
 ④ They are chemicals to kill insects that eat crops.
- Why do some farmers use ladybirds to control pests?
 ① Because ladybirds make soil enriched.
 ② Because ladybirds eat harmful insects but not plants.
 ③ Because ladybirds dig holes in soil.
 ④ Because ladybirds mix up the soil layers.
- Which is the best way to stop soil erosion?
 ① cutting step-like terraces on steep slopes
 ② farming the same crops every year
 ③ using manufactured fertilizers
 ④ using ladybirds to control pests
- What is the substance that farmers spread on the ground to make plants grow better?
 ① pesticides ② aphids ③ fertilizers ④ slopes

**Circle the answer.**

- What is a mixture of dry leaves, grass, fruit and vegetable scraps called?
 ① fertilizers ② **compost** ③ scraps ④ chemicals
- When the mixture of dry leaves or vegetable scraps are combined and decayed, what do they become?
 ① **humus** ② compost ③ fertilizers ④ waste

**Read the sentences and circle the answers.**

- Gather the same amount of moist things, such as fruit and vegetable scraps and coffee grounds.
- Collect dried materials, such as dried leaves, hedge clippings and grass cuttings.
- Combine them in a special file outdoors. In six to eight weeks, it will decay and become humus.

- What are these procedures for?
 ① making pesticides ② making terraces
 ③ **making humus** ④ making manufactured fertilizers

- Number the sentences in order.
 (**2**) → (**1**) → (**3**)

- Write 5 things for these procedures from the sentences.

Fruit, vegetable scraps, coffee grounds, dried leaves, grass cuttings.

- What is soil made up of?

- ① **pieces of broken rocks** ② nutrients
 ③ trees and grass ④ weathering

- What process makes rocks into smaller pieces?

- ① erosion ② **weathering** ③ polluting ④ watering

- What word goes in the blank?

Over time, bacteria and fungi will help decay rotting leaves and other dead plants and animals into _____.

- ① **humus** ② nutrients ③ water and air ④ erosion

- Where does erosion happen very quickly?

- ① **where trees or grasses are not planted**
 ② where trees and glasses are planted
 ③ where there are pieces of rotting leaves and other dead plants
 ④ where there are no pieces of rotting leaves and other dead plants

- What is the solid rock at the bottom of soil layers called?

- ① subsoil ② **bedrock** ③ topsoil ④ grain

- Which is true about soil layers?

- ① The top layer is made up of solid rock.
 ② Subsoil contains a lot of humus so that plants grow well in this layer.
 ③ The lowest layer is made up of the smallest grains.
 ④ **Topsoil usually contains a lot of humus and nutrients.**

1. Which is true about the best soil for farming?

- ① Clay soil is the best soil for farming.
- ② The best soil for farming is rich in nutrients and holds water well.
- ③ Loam is not good for farming.
- ④ Silt is a mixture of clay and sand and is good for plants.

2. Why is sandy soil not good for plants to grow well?

- ① Because water cannot drain through its fine grains easily.
- ② Because sandy soil does not hold enough water or nutrients.
- ③ Because sandy soil is a mixture of clay and silt.
- ④ Because sandy soil contains medium sized grains.

3. What are the holes or tunnels dug by animals called?

- ① homes
- ② plants
- ③ waste
- ④ burrows

4. What word goes in the blank?

Soil dwellers pass some of the nutrients from the food back into the soil in the form of _____.

- ① fertilizers
- ② waste
- ③ earthworms
- ④ water and air

5. Which is true about ladybirds?

- ① They are the birds that eat harmful insects, but not plants.
- ② They are the insects that eat harmful insects, but not plants.
- ③ They are the chemicals to kill insects that eat crops.
- ④ They are the manufactured fertilizers that enrich the soil.

6. Why do farmers cut step-like terraces on steep slopes?

- ① Because they help stop soil erosion.
- ② Because they make soil enriched.
- ③ Because they make a lot of humus.
- ④ Because they protect the crops from insects.



Change the sentences into negative forms.

Example

Plants grow well in this soil.

→ Plants do not grow well in this soil.

1. My friends go to the party.

→ My friends do not go to the party.

2. Animals make homes in the trees.

→ Animals do not make homes in the trees.

3. Moles dig holes in the soil.

→ Moles do not dig holes in the soil.

4. It helps the plants grow well.

→ It does not help the plants grow well.



Change the sentences into negative forms.

Example

Cats can climb trees. → Cats cannot climb trees.

1. Fish can walk.

→ Fish cannot walk.

2. It can help plants grow well.

→ It cannot help plants grow well.

3. Animals can dig holes in the soil.

→ Animals cannot dig holes in the soil.

4. Kangaroos can jump backward.

→ Kangaroos cannot jump backward.



Circle the correct words to finish the sentences.

- 1. The layer below the topsoil (do not does not) contain as much humus as topsoil.
- 2. Plants do not does not) grow well there, either.
- 3. Water and air (can cannot) easily move through layers of clay.
- 4. Sandy soil (do not does not) hold enough water or nutrients for many plants to grow well.
- 5. Even though clay soil has many nutrients, many plants do not does not) grow well in it.



Circle the correct words to finish the sentences.

- 1. People can cannot) help the soil by adding compost to it.
- 2. Water and air can cannot) pass through burrows to reach plants' roots.
- 3. Plant roots (can cannot) push through clay soil to find water.
- 4. Erosion can cannot) harm farmland and pollute rivers and streams.
- 5. Wind and rain can cannot) carry soil to different places.



Choose one animal to help soil to be healthy. And complete the fact file about it.

Name	
Place to Live	
How the Animal Moves	
What the Animal Eats	
How the Animal Helps Soil	
Interesting Facts about Its Life	



Write a short story using the information from the chart you completed above.

Listening Practice



Track
#11

1. Soil is made up of tiny pieces of rock.
2. Wind and rain can carry soil to different places.
3. Clay soil has many nutrients.
4. When these animals die, their remains decay and become humus.
5. Farmers sometimes cut step-like terraces on steep slopes.



Track
#11

6. It might look like plain old dirt, but soil is much more than that. Earth's soil makes almost all life on land possible. It holds heat, water and food for plants. It provides shelter and food for animals. People depend on soil for farming and food.
7. Sometimes erosion happens very quickly. If there are no trees or grasses, soil can be washed or blown away very easily. Erosion happens more slowly where trees and grasses are planted. Their roots hold the soil in place.
8. Clay soil has many nutrients. Even so, many plants do not grow well in it. Water and air cannot easily move through layers of clay. Plant roots cannot push through clay soil to find water. Sandy soil does not hold enough water or nutrients for many plants to grow well.
9. Soil provides animals with food, warmth and protection. Some animals, such as wombats, moles and rabbits, dig under the soil to make their homes, or burrows. Smaller creatures, such as worms and insects, also live in the soil.
10. Keeping soil healthy or making poor soil better has always been important to farmers. That is because it can take thousands of years to form enough good soil for farming. Farmers need to protect the soil they have.

MEMO

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